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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/756,545 | 01/12/2004 | Ronald E. Farmer | H680189.0002US0 | 3847 |

1200 7590 01/11/2007
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HOUSTON, TX 77002

EXAMINER

SHANKAR, VIJAY

ART UNIT PAPER NUMBER

2629

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/11/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/756,545

Applicant(s)

FARMER ET AL.

Examiner

VIJAY SHANKAR

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>6-14-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 1, " claims priority to U.S. Provisional Application No. _____ filed Jan. 17, 2003", U.S. Provisional Application Number is missing.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 19-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Popovich et al (6,712,486).

Regarding Claim 19, Popovich et al teaches an LED module (30 in Fig.1),(see Figs.1-5,16-19; Col.5, line 6-56; Col.7, line 57- Col.8, line 20) comprising: (a) a circuit board assembly (50 in Fig.1; See Figs.1-4; Col.3, lines 26-65); (b) a first LED (32 in Fig.3) mounted with the circuit board assembly (Fig.1,3; Col.3, lines 43-67); (c) a

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substantially constant current circuit mounted with the circuit board assembly and operably connected to the first LED (Figs.1-5; Col.5, lines 6-56); and (d) a power supply assembly mounted with the circuit board assembly and operably connected to the substantially constant current circuit whereby the LED is provided with substantially constant current within an operating range to substantially produce a predesignated level of brightness(Col.1, lines 17-29; Col.5, lines 12-56).

(Also, See Figs.1-5,16-19; Col.5, line 6-56; Col.7, line 57- Col.8, line 20).

Regarding Claims 20-21, 24, Popovich et al teaches the LED module wherein the power supply includes: (a) a supply of alternating power current (Fig.3,5, Col.5, lines 5-56, Figs.16-19; Col.7, line 57- Col.8, line 20); and (b) a rectifier (140 in fig.18) or other means operably connected to the supply of alternating power to convert the alternating power current to direct power current (Fig.3,5, Col.5, lines 5-56, Figs.16-19; Col.7, line 57- Col.8, line 20); and the power supply assembly including a source of alternating current operably connected to a step-down transformer mounted with the circuit board assembly; and the circuit board assembly is generally rectangular in configuration and has opposing side edges; and the first LED is located adjacent to one of the side edges. (Fig.3,5, Col.5, lines 5-56, Figs.16-19; Col.7, line 57- Col.8, line 20).

Regarding Claims 22-23, Popovich et al teaches the LED module wherein the substantially constant current source comprises: (a) the substantially constant current circuit operably connected to the power supply and to the first LED in order to power the first LED with substantially constant current, whereby the first LED emits light at a substantially predetermined level of brightness (Fig.3,5, Col.5, lines 5-56, Figs.16-19; Col.7, line 57- Col.8, line 20); and an inductor and switch combination; the first LED is serially connected to the inductor and switch combination to operate the first LED in a substantially constant current range. (Fig.3,5, Col.5, lines 5-56, Figs.16-19; Col.7, line 57- Col.8, line 20).

Regarding Claim 25, Popovich et al teaches the LED module wherein: (a) a second LED (32 in fig.3) is mounted with the first LED and is driven by the substantially constant current circuit whereby the first and second LEDs are operated with substantially the same operating range to produce substantially the same level of brightness. (Fig.3,5, Col.5, lines 5-56).

Regarding Claim 26, Popovich et al teaches the LED module of further comprising: (a) a second LED module (30 in Fig.21,23) comprising a second circuit board assembly, a third LED (32 in fig.3) mounted with the second circuit board assembly, a second substantially constant current circuit mounted with the second

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circuit board assembly operably connected to the third LED (Figs.21,23; Col.9, line 34- Col.10, line 60), and (b) means for electrically connecting the first and second LED modules together to form a lighting system. (Figs.21,23; Col.9, line 34- Col.10, line 60).

Regarding Claim 27, Popovich et al teaches the LED modular system further including: (a) a fourth LED mounted with the second circuit board assembly in series with the third LED, the second substantially constant current power supply operably connected to the third and fourth LEDs whereby the third and fourth LEDs are operated at substantially the same level of brightness. (Fig.3,5, Col.5, lines 5-56).

Regarding Claim 28, Popovich et al teaches the modular system including: (a) the first, second, third and fourth LEDs being driven by substantially the same level of current whereby the first, second, third and fourth LEDs have substantially uniform light emission. (Fig.3,5, Col.5, lines 5-56).

Regarding Claim 29, Popovich et al teaches the modular system including: (a) the first and second LEDs operating in substantially the same current range to produce a certain level of brightness (Fig.3,5, Col.5, lines 5-56); and (b) the second and fourth LEDs operating in a current range different from the current range of the first and third LEDs to produce the certain level of brightness which is substantially the same as the level of brightness of the first and second LEDs. (Fig.3,5, Col.5, lines 5-56).

Regarding Claim 30, Popovich et al teaches the LED modular lighting system (30 in Fig.1), comprising: (a) a first independent LED power module, the first LED independent power module including a first power supply mounted with a first circuit board assembly operably connected to a first substantially constant current circuit mounted with the first circuit board assembly (see Figs.1-5,16-19; Col.5, line 6-56; Col.7, line 57- Col.8, line 20); (b) a first separate LED unit, the first separate LED unit including a first LED mounted on a first separate LED circuit board (Figs.21,23; Col.9, line 34- Col.10, line 60); and (c) the first LED power module operably connected to the first, separate LED unit whereby the first LED power module and the first separate LED unit cooperate to provide a substantially constant predesignated current to the first LED in order to produce a predesignated level of brightness. (see Figs.1-5,16-19; Col.5, line 6-56; Col.7, line 57- Col.8, line 20; Figs.21,23; Col.9, line 34- Col.10, line 60).

Regarding Claim 31, Popovich et al teaches the LED modular lighting system further including: (a) a second separate LED unit, the second separate LED unit including a second LED mounted on a second separate LED circuit board, the second LED unit being operably connected to the first independent LED power module whereby the first independent LED power module drives the first and second LEDs located on separate LED circuit boards at a substantially uniform level of current and LED brightness. (Figs.21,23; Col.9, line 34- Col.10, line 60).

Regarding Claim 32, Popovich et al teaches the LED modular lighting system

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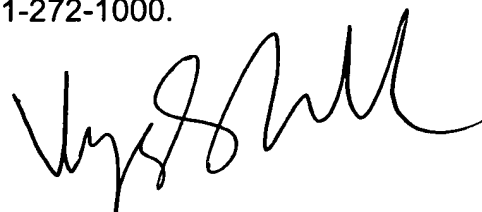
further including: (a) the second LED unit including a third LED mounted on the second separate LED circuit board whereby the first, second and third LEDs are driven at substantially the same current to produce substantially the same level of brightness. (Fig.3,5, Col.5, lines 5-56).

Regarding Claim 33, Popovich et al teaches the LED modular light system (30 in Fig.1), including: (a) a circuit board assembly (50 in Fig.1; See Figs.1-4; Col.3, lines 26-65); (b) a first LED (32 in fig.3) mounted with the circuit board assembly (Fig.1,3; Col.3, lines 43-67); (c) a substantially constant current circuit mounted with the circuit board assembly and operably connected to the first LED (Figs.1-5; Col.5, lines 6-56); (d) a first independent LED power module, the first LED independent power module including a first power supply mounted with a first circuit board assembly operably connected to a first substantially constant current circuit mounted with the first circuit board assembly (see Figs.1-5,16-19; Col.5, line 6-56; Col.7, line 57- Col.8, line 20); (e) a first separate LED unit, the first separate LED unit including a first LED mounted on a first separate LED circuit board (Figs.21,23; Col.9, line 34- Col.10, line 60); and (f) the first LED power module operably connected to the first, separate LED unit whereby the first LED power module and the first separate LED unit cooperate to provide a substantially constant predesignated current to the first LED in order to produce a predesignated level of brightness. (see Figs.1-5,16-19; Col.5, line 6-56; Col.7, line 57- Col.8, line 20; Figs.21,23; Col.9, line 34- Col.10, line 60).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VIJAY SHANKAR whose telephone number is (571) 272-7682. The examiner can normally be reached on M-F 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BIPIN SHALWALA can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



VIJAY SHANKAR
Primary Examiner
Art Unit 2629

VS